Planning your questions using Bloom's Taxonomy

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Research (Wragg and Brown, 2001) suggests that lessons where questioning is most effective are likely to have a number of specific characteristics. These are as follows:

- where questions have been planned, visually displayed and closely linked to the objectives of the lesson;
- where the learning of basic skills has been enhanced by frequent questioning following the exposition of new content that has been broken down into bite-size pieces;
- where each step has been followed by guided practice that provides opportunities for pupils to consolidate what they have learnt and which allows teachers to check understanding;
- where closed questions have been used to check factual understanding and recall;
- where open questions have predominated in lessons;
- where sequences of questions have been planned so that cognitive levels increase as the questioning continues. This ensures that pupils have been encouraged to answer questions that demand increasingly higher-order thinking skills;
- where the classroom climate has been such that pupils have felt secure enough to take risks, be tentative and make mistakes.

In 1956, having researched thousands of questions routinely asked by teachers, Benjamin Bloom set about putting these into six categories. These categories came to be known as Bloom's Taxonomy. In the same year a committee of colleges led by Bloom carried out further work on this classification issue and identified three domains of educational activities.

These are:
1 Cognitive: mental skills (Knowledge).
2 Psychomotor: manual or physical skills (Skills).
3 Affective: growth in feelings or emotional areas (Attitude).

The term 'domains' in an educational sense simply means 'categories'. Trainers often refer to these three domains as KSA (Knowledge, Skills, and Attitude). This taxonomy of learning behaviours can be thought of as 'the goals of the training process'; in other words once the learning session has finished, the learner should have acquired new skills,knowledge, and/or attitudes.

This compilation subdivides the three domains, starting from the simplest behaviour to the most complex. The divisions outlined are not absolutes and there are other systems or hierarchies that have been devised in the educational and training world. However, Bloom's Taxonomy is easily understood and is probably the most widely applied system today. For the purposes of this book, and without wishing to demote the significance of the other two domains, I am asking you to focus your attention primarily on the cognitive domain. Having said this, there is a real need for teachers to explore the other two domains in their lessons wherever possible.

Cognitive domain

The cognitive domain, shown involves the development of knowledge and intellectual skills. This includes the recall or recognition of specific facts, procedural patterns and concepts that serve in the development of intellectual abilities and skills. There are six major categories, which are listed in order below, starting from the simplest behaviour to the most complex. The categories have been arranged as a hierarchy: in other words, the first one must be mastered before the next one can take place. So, what exactly are the implications of Bloom's Taxonomy for your teaching and learning? The fundamental purpose of the taxonomy is to help you to plan a range of questions to support and challenge pupils of all abilities in your lessons. The emphasis here is on the word 'plan'. Your questions should not be 'hit and miss' but should be directed at those pupils to whom they are most appropriate; in short, you need to differentiate your questioning. To help you to do this I have presented further guidance below:

Make this taxonomy clear to your pupils. Explaining the principles and purpose of Bloom's Taxonomy to your pupils, and presenting this to them in visual form in your classroom, is one way to get the pupils to understand why you will be asking different types of questions during your lessons. Bearing in mind the importance of getting pupils to ask questions, you could always provide the class with a visual stimulus (photograph, video clip, cartoon, print, etc) and ask your pupils to use Display a diagram showing Bloom's Taxonomy.

Bloom's Taxonomy to come up with a series of questions they would like to ask. Doing this will most certainly develop their questioning and thinking skills. When launching your learning objectives, produce a series of **key questions** that cover the range of categories found in Bloom's Taxonomy. You can use these questions to explore the level of pupils' understanding of the topic under study.

The other thing you could do is to introduce a competitive element into your lessons by giving your questions a currency using Bloom's Taxonomy as a general guide. Your 'Knowledge' questions could be worth one point, your 'Comprehension' questions worth two points and so on. Pupils could amass points according to the types of questions they answer.

Using Bloom's Taxonomy you could produce a series of colour-coded questions (each category being given a different colour) on one aspect of a unit of work you are teaching. You could ask your lower-ability pupils to choose one question from the first three categories (Knowledge, omprehension, Application) and if they can manage it, one from another category. You could then get your more able pupils to select one or two questions from the more challenging categories. Doing this will involve pupils of all ability in the learning.

Bloom's Taxonomy
Knowledge

USEFUL VERBS

Tell
List
Describe
Relate
Locate
Write
Find
State

SAMPLE QUESTION STEMS

Name
What happened after...?
How many...?
Who was it that...?
Can you name the...?
Describe what happened at...?
Who spoke to...?
Can you tell why...?
Find the meaning of...?
What is...?
Which is true or false...?

POTENTIAL ACTIVITIES OR PRODUCTS

Make a list of the main events..
Make a timeline of events.
Make a facts chart.
Write a list of any pieces of information you can remember.
List all the .... in the story.
Make a chart showing...
Make an acrostic.
Recite a poem.

Comprehension

USEFUL VERBS

Explain
Interpret
Outline
Discuss
Distinguish
Predict
Restate
Translate
Compare
Describe

SAMPLE QUESTION STEMS
Can you write in your own words...?
Can you write a brief outline...?
What do you think could have happened next...?
Who do you think...?
What was the main idea...?
Who was the key character...?
Can you distinguish between...?
What differences exist between...?
Can you provide an example of what you mean...?
Can you provide a definition for...?

POTENTIAL ACTIVITIES OR PRODUCTS
Cut out or draw pictures to show a particular event.
Illustrate what you think the main idea was.
Make a cartoon strip showing the sequence of events.
Write and perform a play based on the story.
Retell the story in your words.
Paint a picture of some aspect you like.
Write a summary report of an event.
Prepare a flow chart to illustrate the sequence of events.
Make a colouring book.

Application

USEFUL VERBS
Solve
Show
Use
Illustrate
Construct
Complete
Examine
Classify

SAMPLE QUESTION STEMS
Do you know another instance where...?
Could this have happened in...?
Can you group by characteristics such as...?
What factors would you change if...?
Can you apply the method used to some experience of your own...?
What questions would you ask of...?
From the information given, can you develop a set of instructions about...?
Would this information be useful if you had a ...?

POTENTIAL ACTIVITIES OR PRODUCTS
Construct a model to demonstrate how it will work.
Make a diorama to illustrate an important event.
Make a scrapbook about the areas of study.
Make a paper-mache map to include relevant information about an event.
Take a collection of photographs to demonstrate a particular point.
Make up a puzzle game using the ideas from the study area.
Make a clay model of an item in the material.
Design a market strategy for your product using a known strategy as a model.
Dress a doll in national costume.
Paint a mural using the same materials.
Write a textbook about... for others.

Analysis

USEFUL VERBS
Analyse
Distinguish
Examine
Compare
Contrast
Investigate
Categorise
Identify
Explain
Separate
Advertise

SAMPLE QUESTION STEMS
Which events could have happened...?
I ... happened, what might the ending have been?
How was this similar to...?
What was the underlying theme of...?
What do you see as other possible outcomes?
Why did ... changes occur?
Can you compare your ... with that presented in...?
Can you explain what must have happened when...?
How is ... similar to ...?
What are some of the problems of...?
Can you distinguish between...?
What were some of the motives behind...?
What was the turning point in the game?
What was the problem with...?

POTENTIAL ACTIVITIES OR PRODUCTS
Design a questionnaire to gather
Write a commercial to sell a new product.
Conduct an investigation to produce information to support a view.
Make a flow chart to show the critical stages.
Construct a graph to illustrate selected information.
Make a jigsaw puzzle.
Make a family tree showing relationships.
Put on a play about the study area.
Write a biography of the study
Prepare a report about the area of study.
Arrange a party. Make all the arrangements and record the steps needed.
Review a work of art in terms of form, colour and texture.

Synthesis

USEFUL VERBS
Create
Invent
Compose
Predict
Plan
Construct
Design
Imagine
Propose
Devise
Formulate

SAMPLE QUESTION STEMS
Can you design a ... to ...?
Why not compose a song about...?
Can you see a possible solution to...?
If you had access to all resources how would you deal with...?
Why don't you devise your own way to deal with...?
What would happen if...?
How many ways can you...?
Can you create new and unusual uses for...?
Can you write a new recipe for a tasty dish?
can you develop a proposal which would...

POTENTIAL ACTIVITIES OR PRODUCTS
Invent a machine to do a specific task.
Design a building to house your study.
Create a new product. Give it a name and plan a marketing campaign.
Write about your feelings in relation to...
Write a TV show, play, puppet show, role play, song or pantomime about...?
Design a record, book, or magazine cover for...?
Make up a new language code and write material using it.
Sell an idea.

Devise a way to...
Compose a rhythm or put new
words to a known melody.

Evaluation

USEFUL VERBS
Judge
Select
Choose
Decide
Justify
Debate
Verify
Argue
Recommend
Assess
Discuss
Rate
Prioritise
Determine

SAMPLE QUESTION STEMS
Is there a better solution to...
Judge the value of...
Can you defend your position about...?
Do you think ... is a good or a bad thing?
How would you have handled...?
What changes to ... would you recommend?
Do you believe?
Are you a ... person?
How would you feel if...?
How effective are...?
What do you think about...?

POTENTIAL ACTIVITIES OR PRODUCTS
Prepare a list of criteria to judge a show.
Indicate priority and ratings.
Conduct a debate about an issue of special interest.
Make a booklet about 5 rules you see as important. Convince others.
Form a panel to discuss views, e.g. “Learning at School.”
Write a letter to ... advising on changes needed at...
Write a half yearly report.
Prepare a case to present your view about...